

Construction and Material Specifications City of Columbus

*2012 CMSC Orientation
Section 100*



General Information

- **Effective/Implementation Date:**
 - February 1, 2012
- **Hard Copies to be available:**
 - Target: Third week of February
- **Starting Point for the Revisions:**
 - Section 100
 - Technical Sections
 - Committees
- **Comments and Changes:**
 - City Website
- **Ongoing review in anticipation of next update**



General Changes and Revisions

- **Supplements (City and ODOT)**
- **Standard Drawings**
- **Supplemental Specifications**
- **Qualified Products List (DPS)**



Section 100

2002 City of Columbus CMS	2012 City of Columbus CMS
101 Definitions and Terms	101 Definitions and Terms
102 Bidding Requirements and Conditions	102 Bidding Requirements and Conditions
103 Award and Execution of Contract	103 Award and Execution of Contract
104 Scope of Work	104 Scope of Work/Changes
105 Control of Work	105 Control of Work
106 Control of Material	106 Control of Material
107 Legal Relations and Responsibility to Public	107 Legal Relations and Responsibility to Public
108 Prosecution and Progress	108 Prosecution and Progress of Work
109 Acceptance, Measurement, and Payment	109 Acceptance, Measurement, and Payment



Section 101 – Definitions and Terms

Columbus 2012 Construction & Materials Specifications

101.01 General

101.02 Abbreviations

101.03 Definitions

101.04 Interpretations



Section 101 – Definitions and Terms

- **Added provision about the active, imperative voice.**
- **Revised and added definitions based upon City Code, current practice, and current bid/contract documents.**
 - Change Order
 - Contract Modification
 - Field Order
 - Etc.



Section 102 – Bidding Requirements and Conditions

Columbus 2012 Construction & Materials Specifications

- 102.01 Pre-qualification of Bidders
- 102.02 Availability and Contents of Bid Documents
- 102.03 Preparation of Proposals
- 102.04 Interpretation of Quantities in Proposal
- 102.05 Examination of Contract Documents and Work Site
- 102.06 Duty to Notify of Errors in Bid Documents
- 102.07 Bid Award Determination
- 102.08 Non-Responsive Proposals
- 102.09 Rejection of Unbalanced Bid
- 102.10 Proposal Guaranty
- 102.11 Delivery of Proposal
- 102.12 Withdrawal of Proposals Prior to Bid Opening
- 102.13 Withdrawal of Proposals after Bid Opening (Mistake in Bid)
- 102.14 Public Opening of Proposals
- 102.15 Material Standards



Section 102 – Bidding Requirements and Conditions

- **Item 102.01 - Sewer and Water Tapper's License requirement**
- **Added language to allow for/require electronic bidding**
- **Modified the Bidding and Award language to allow for possible changes to the City Code**
- **Item 102.08 - Expanded definition of Responsive**
- **Withdrawal of Bids**
 - Item 102.12 - Prior to Bid Opening
 - Item 102.13 - After Bid Opening (Mistake in Bid)



Section 103 – Award and Execution of Contract

Columbus 2012 Construction & Materials Specifications

- 103.01 Consideration of Proposals
- 103.02 Award of Contract
- 103.03 Cancellation of Award
- 103.04 Return of Proposal Guaranty
- 103.05 Contract Performance and Payment Bond
- 103.06 Execution of Contract
- 103.07 Failure to Execute Contract and Furnish Performance and Payment Bond(s).
- 103.08 Responsibility to General Public
- 103.09 Contractor's Insurance



Section 103 – Award and Execution of Contract

- **Modified the Bidding and Award language to allow for possible changes to the City Code**
- **Modification to Insurance Requirements**
 - 2 Items:
 - Item 103.08 - Responsibility to General Public, and
 - Item 103.09 - Contractor's Insurance



Section 104 – Scope of Work/Changes

Columbus 2012 Construction & Materials Specifications

104.01 Intent of Contract

104.02 Modifications of the Contract Documents

104.03 Contractor Notification, Continuation of Work, and Claims

104.04 Maintenance of Traffic and Accessibility to Utilities

104.05 Rights In and Use of Materials Found on the Work Site

104.06 Right of Property in Materials

104.07 Final Cleaning Up

104.08 Recordkeeping/Audit (*NEW*)



Section 104 – Scope of Work/Changes

- **104.02.B Differing Site Conditions (DSC)**
 - Contractor encounters subsurface or latent physical conditions that
 - (i) differ materially from those indicated in the Contract Documents; or
 - (ii) unknown physical conditions of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in the Work provided for in the Contract Documents
 - Contractor notifies Engineer *before conditions are disturbed or affected Work is performed*
 - Engineer investigates to determine if there is a DSC.
 - If the DSC cause increase or decrease in cost and/or Time - City will adjust the Contract; Engineer notifies Contractor in writing.
 - If Contractor disagrees with Engineer's determination, Contractor provides notice and brings a Claim under 104.03.



Section 104 – Scope of Work/Changes

- **104.02.C Written Delay or Suspension of Work**
 - Engineer can direct the Contractor, in writing, to
 - delay its start of operations or
 - to suspend its operations
 - Contractor must provide notice and follow 104.03 if additional compensation or time is due.
 - The Engineer will respond in writing.
 - If additional compensation or time is due, the City will adjust the Contract as specified in 108.06 and 109.05.
 - If Contractor disagrees with Engineer's determination, Contractor provides notice and brings a Claim under 104.03.



Section 104 – Scope of Work/Changes

- **104.02.D Significant Changes in Character of Work**
 - Quantity Overrun or Underrun
 - A quantity variation in excess of 125% of the estimated quantity also causes an increase in the Contract Time(s), the Contractor shall demonstrate the time impact.
 - An overrun or underrun by 25% or more – Follow 109.04 for an increase or decrease in Contract Sum
 - Prompt written notice when aware, or has reason to believe, that quantities will overrun or underrun by 25% or more of the estimated quantity
 - City must provide written notice for adjustment of the Contract Sum or Time, determined per 109.04.
 - Contractor can bring a Claim under 104.03.



Section 104 – Scope of Work/Changes

- **104.02.E Eliminated Items**
 - Deductive Change Order to eliminate items of Work
 - Pricing adjustment per 109.04
- **104.02.F Extra Work**
 - Request for Proposal
 - Unable to agree to reasonable cost:
 - Determine cost in accordance with 109.05.C, or
 - Unilateral Change Order
 - Failure to reach agreement ... shall not relieve the Contractor from performing the Extra Work promptly and expeditiously



Section 104 – Scope of Work/Changes

- **104.02.G Unilateral Change Order**
 - The City and Contractor are unable to agree as to the reasonable cost and time to perform Extra Work
 - City issues a Unilateral Change Order to the Contractor for any cost or time it determines to be due to Contractor. City determines the price for the Extra Work.
 - Contractor can pursue a Claim in accordance with 104.03
- **104.02.H Minor Changes/Clarifications to the Work**
 - Engineer can issue Field Orders
 - Field Orders = No Cost & No Time Change
 - Field Orders are incidental to the Work



Section 104 – Scope of Work/Changes

- **104.03.B Contractor Notice**
 - Initial Oral Notification
 - Must be followed up with written notice or Contractor waives the Claim
 - Written Notice
 - Within 5 working days from Oral Notification
 - Content of the notice
- **104.03.C Continuation of Work**
- **104.03.D Claims**
 - Certification of Claim



Section 104 – Scope of Work/Changes

- **104.03.E Dispute Resolution Process**
 - Step 1: On-site Meeting
 - Step 2: Meeting with Claims Resolution Committee, Engineer and Contractor
 - Alternative Dispute Resolution
 - Litigation



Section 105 – Control of Work

Columbus 2012 Construction & Materials Specifications

105.01 Authorities and Duties

105.02 Plans and Working Drawings

105.03 Conformity with Contract Documents

105.04 Coordination of the Contract Documents

105.05 Cooperation by Contractor

105.06 Superintendent (*NEW*)

105.07 Cooperation with Utilities

105.08 Cooperation between Contractors

105.09 Construction Stakes, Lines and Grades

105.10 Photographs and Videos

105.11 Inspection of Work

105.12 Removal of Unacceptable and Unauthorized Work

105.13 Load Restrictions

105.14 Maintenance during Construction

105.15 Failure to Maintain Roadway or Structures, Traffic Control Facilities and Other Appurtenances

105.16 Borrow and Waste Areas

105.17 Use of Fire Hydrants

105.18 Moving of Equipment

105.19 Construction and Demolition Debris, Vegetative Debris, and Clean Soil



Section 105 – Control of Work

- **105.01 - Authorities and Duties**
 - Combined into one section

Director	Engineer	Inspector
Enter into Contract	Has immediate charge of engineering details of Project	Authorized to judge acceptability of the Work.
Execute Contract Modification	Ensures Contractor satisfactorily administers and completes Work	Notify the Contractor of Work that does not conform to the Contract
Delay or terminate Contract	Decides all questions that may arise as to: quantity, quality and acceptability of materials furnished; work performed and rate of progress; conformity with Plans, Specifications and other Contract Documents; acceptable fulfillment of the Contract on the part of the Contractor; interpretation of the Plans, Specifications and other Contract Documents; and Contractor compensation or time extensions.	Reject materials that do not conform to the Specification requirements
Suspend Work wholly or in part	May suspend all or part of the Work pursuant to 104.02.C.	
Has ultimate decision making authority	May suspend all or part of the Work when the Contractor fails to correct conditions that are unsafe for the workers or the general public, fails to comply with the Contract Documents, or fails to comply with the Engineer's orders.	
	May suspend the Work due to adverse weather conditions, conditions considered adverse to the prosecution of the Work, or other conditions or reasons in the public interest.	



Section 106 – Control of Material

Columbus 2012 Construction & Materials Specifications

- 106.01 Source of Supply and Quality Requirements
- 106.02 Samples, Tests, Cited Specifications
- 106.03 Small Quantities and Materials for Temporary Application (*NEW*)
- 106.04 Plant Sampling and Testing Plan
- 106.05 Storage of Materials
- 106.06 Handling of Materials
- 106.07 Unacceptable Materials
- 106.08 City-Furnished Materials



Section 107 – Legal Relations and Responsibility to Public

Columbus 2012 Construction & Materials Specifications

- 107.01 Laws to be Observed
- 107.02 Permits, Licenses and Taxes
- 107.03 Patented Devices, Materials and Processes
- 107.04 Restoration of Surfaces Opened by Permit
- 107.05 Federal-Aid Provisions
- 107.06 Sanitary Provisions
- 107.07 Public Convenience and Safety
- 107.08 Barricades and Warning Signs
- 107.09 Maintenance of Traffic
- 107.10 Use of Explosives
- 107.11 Protection and Restoration of Property
- 107.12 Contractor's Use of the Project Right-of-Way or Other City-Owned Property (*NEW*)



Section 107 – Legal Relations and Responsibility to Public

Columbus 2012 Construction & Materials Specifications

- 107.13 Responsibility for Damage Claims
- 107.14 Motorist Damage Claims
- 107.15 Opening Sections of Project to Traffic (*NEW*)
- 107.16 Contractor's Responsibility for Work
- 107.17 Contractor's Responsibility for Utility Property and Services
- 107.18 Furnishing Right-of-Way
- 107.19 Personal Liability of Public Officials
- 107.20 No Waiver of Legal Rights
- 107.21 OSHA
- 107.22 Litigation
- 107.23 Environmental and Natural Resources Protection (*NEW*)
- 107.24 Indemnification (*NEW*)



Section 108 – Prosecution and Progress

Columbus 2012 Construction & Materials Specifications

- 108.01 Subletting of Contract
- 108.02 Preconstruction Conference
- 108.03 Prosecution and Progress
- 108.04 Limitation of Operations
- 108.05 Character of Workers, Methods, and Equipment
- 108.06 Determining a Time Extension to the Completion Date and Payment for Excusable Delays
- 108.07 Failure to Complete on Time
- 108.08 Unsatisfactory Progress and Default of Contractor
- 108.09 Certified Payroll



Section 108 – Prosecution and Progress

- **108.01 – Subletting of Contract**
 - Provide copies of the Subcontracts upon request
 - Administration form created for approval of subcontractors
 - Included language about the contract compliance requirements for subcontractors

Sublet Form
Rev. 12-2011

To the Director of _____:

(Contractor performing these reference numbers)	(Bidder ID)

(Contractor address and telephone number)

Sub-Sub? _____
(If Sub-Sub, List Original Sub's Name) (Original Sub's Bidder ID)

(Please list one reference number per line.)

(Prime Contractor)

(Date) (Signature)

Approved _____ (Director, Department of _____)



Section 108 – Prosecution and Progress

- **108.02 – Preconstruction Conference**
 - Contractor to submit a copy of the baseline schedule
 - Contractor to provide a list of proposed subcontractors and suppliers



Section 108 – Prosecution and Progress

- **108.03 – Progress and Scheduling**
 - Baseline Schedule
 - Monthly Progress Updates
 - Changed Conditions
 - Schedule Revisions
 - Recovery Schedule
 - Delay and Analysis
 - Type A or Type B Schedule
 - Type A – Basic; default schedule type
 - Type B – CPM Schedule; pay item included



Section 108 – Prosecution and Progress

- **108.04 - Limitation of Operations**
 - Moved requirements for work hours, night work and work on Sundays and holidays from Section 105.
- **108.05 – Character of Workers, Methods and Equipment**
 - Added headers and reorganized
 - 108.05.D - Added language about withholding payment



Section 108 – Prosecution and Progress

- **108.06 – Determining a Time Extension to the Completion Date and Payment for Excusable Delays**
 - Included headers to make clearer
 - Defined “excusable, non-compensable” delays
 - Defined weather delays
 - Defined “excusable, compensable” delays
 - Defined “non-excusable” delays
 - Defined “concurrent delays”



Section 108 – Prosecution and Progress

- **108.07 – Failure to Complete on Time**
 - Liquidated Damages
 - Inspection costs and other direct damages
- **108.08 – Unsatisfactory Progress and Default of Contractor**
 - Termination for Default
 - Termination for Convenience
 - Defined costs, documentation and continuing responsibilities for each
- **108.09 – Certified Payroll**
 - Updated the requirements



Section 109 – Acceptance, Measurement, and Payment

Columbus 2012 Construction & Materials Specifications

- 109.01 Measurement of Quantities
- 109.02 Measurement Units
- 109.03 Scope of Payment
- 109.04 Compensation for Altered or Eliminated Quantities
- 109.05 Extra Work
- 109.06 Directed Acceleration
- 109.07 Estimates (Partial Payments)
- 109.08 Project Contingency
- 109.09 Retainage
- 109.10 Payment for Material on Hand
- 109.11 Final Inspection and Acceptance
- 109.12 Release of Liability
- 109.13 Guarantee/Warranties
- 109.14 Backcharges
- 109.15 Right to Set-Off



Section 109 – Acceptance, Measurement, and Payment

- **109.04 Compensation for Altered or Eliminated Quantities**
 - Clarified the calculation and process
 - Added language for eliminated items



Section 109 – Acceptance, Measurement, and Payment

- **109.05 Extra Work**
 - Methods for determining price of Extra Work
 - Negotiated Price
 - *Lump Sum*
 - *Unit Price*
 - Force Account included in this provision
 - *Foreman's Transportation*
 - *Daily Force Account Records*
 - Delay Costs
 - Termination for Convenience Costs



Section 109 – Acceptance, Measurement, and Payment

- **109.06 Directed Acceleration – *NEW***
- **109.08 Project Contingency – *NEW***
- **109.09 Retainage –**
 - 2002 CMSC - was included in 109.07 Partial Payments
 - Changed from previous retainage process
- **109.11 Final Inspection and Acceptance**
- **109.14 Back charges – *NEW***
- **109.15 Right to Set-Off – *NEW***



Final Comments and Questions?

Construction and Material Specifications City of Columbus

*2012 CMSC Orientation
Sections 200 through 1000*



General Information

- **Effective/Implementation Date:**
 - February 1, 2012
- **Hard Copies to be available:**
 - Target: Third week of February
- **Starting Point for the Revisions:**
 - Section 100
 - Technical Sections
 - Committees
- **Comments and Changes:**
 - City Website
- **Ongoing review in anticipation of next update**



General Changes and Revisions

- **Supplements (City and ODOT)**
- **Standard Drawings**
- **Supplemental Specifications**
- **Qualified Products List**



Section 100

2002 City of Columbus CMS	2012 City of Columbus CMS
101 Definitions and Terms	101 Definitions and Terms
102 Bidding Requirements and Conditions	102 Bidding Requirements and Conditions
103 Award and Execution of Contract	103 Award and Execution of Contract
104 Scope of Work	104 Scope of Work/Changes
105 Control of Work	105 Control of Work
106 Control of Material	106 Control of Material
107 Legal Relations and Responsibility to Public	107 Legal Relations and Responsibility to Public
108 Prosecution and Progress	108 Prosecution and Progress of Work
109 Acceptance, Measurement, and Payment	109 Acceptance, Measurement, and Payment



Section 200



2002 City of Columbus CMS	2012 City of Columbus CMS
201 Clearing and Grubbing	201 Clearing and Grubbing
202 Removal of Structures and Obstructions	202 Removal of Structures and Obstructions
203 Roadway Excavation and Embankment	203 Roadway Excavation and Embankment
204 Subgrade Compaction and Proof Rolling/Test Rolling	204 Subgrade Compaction and Proof Rolling/Test Rolling
	205 Chemically Stabilize Embankment
	206 Chemically Stabilized Subgrade
207 Temporary Sediment and Erosion Controls	207 Temporary Sediment and Erosion Controls
209 Linear Grading	209 Linear Grading



Section 200 – Earthwork



◆ **Key Changes**

- ◆ **Item 205 replaces City of Columbus Supplemental Specification 1502.**
- ◆ **Item 206 replaces City of Columbus Supplemental Specification 1503.**
- ◆ **Item 207 – changed from 2002 CMS**
 - ◆ **ODOT's Supplement 832 may be used on a project-by-project basis.**



Section 250

2002 City of Columbus CMS	2012 City of Columbus CMS
251 Partial Depth Pavement Replacement	251 Partial Depth Pavement Repair
252 Permanent Pavement Replacement	252 Full Depth Rigid Pavement Removal and Flexible Replacement
253 Temporary Pavement	253 Pavement Repair
254 Pavement Planing	254 Pavement Planing
255 Portland Cement Concrete Pavement Replacement	255 Full Depth Pavement Removal and Rigid Replacement
	256 Bonded Patching of Portland Cement Concrete Pavement
	257 Diamond Grinding Portland Cement Concrete Pavement
	259 Permanent Pavement Replacement



Section 250 - Pavement Repairs

- ◆ **Key Changes:**
 - ◆ **New Items:**
 - ◆ **256 - Bonding Patching of Portland Cement Concrete Pavement**
 - ◆ **257 – Diamond Grinding Portland Cement Concrete Pavement**
 - ◆ **2002 CMSC Item 252 - Permanent Pavement Replacement carried over to new specs as Item 259**
 - ◆ **2002 CMSC Item 253 - Temporary Pavement included within Item 615 - Roads and Pavements For Maintaining Traffic**



Section 300



2002 City of Columbus CMS	2012 City of Columbus CMS
301 Bituminous Aggregate Base	301 Asphalt Concrete Base
	302 Asphalt Concrete Base
304 Aggregate Base	304 Aggregate Base
305 Portland Cement Concrete Base – Arterial	305 Portland Cement Concrete Base
306 Portland Cement Concrete Base – Residential	306 Portland Cement Concrete Base – Residential
310 Modified Backfill	
	320 Rubblize and Roll
	321 Cracking and Seating Existing Non-Reinforced Concrete Pavement



Section 300 – Bases

- ◆ **Key Changes:**
 - ◆ **New Item:**
 - ◆ **302 – Asphalt Concrete Base**
 - ◆ **2002 CMSC Item 306 – Portland Cement Concrete Base carried over to new spec as Item 306**
 - ◆ **2002 CMSC Item 310 was not incorporated into the new CMSC**



Section 400



2002 City of Columbus CMS	2012 City of Columbus CMS
401 Plant Mix Pavements - General	401 Asphalt Concrete Pavements – General
402 Asphalt Concrete	402 Asphalt Concrete Mixing Plants
	403 Asphalt Concrete Quality Control and Acceptance
404 Asphalt Concrete	
405 Bituminous Cold Mix	405 Bituminous Cold Mix
407 Tack Coat	407 Tack Coat
408 Prime Coat	408 Prime Coat
409 Seal Coat	409 Sawing and Sealing Asphalt Concrete Pavement Joints
410 Traffic Compacted Surface	410 Traffic Compacted Surface
411 Stabilized Crushed Aggregate	411 Stabilized Crushed Aggregate
412 Asphalt Concrete	412 Seal Coat
413 Crack Sealing, Hot Applied	
414 Micro-Surfacing	
415 Asphalt Concrete with Fibers	
416 Asphalt Concrete, Contractor Mix Design	
417 Asphalt Emulsion Slurry Seal	417 Asphalt Emulsion Slurry Seal
418 Sawing and Sealing Asphalt Concrete Pavement Joints	
	421 Microsurfacing
	423 Crack Sealing, Hot Applied
	424 Fine Graded Polymer Asphalt Concrete
	441 Contractor Mix Design and Quality Control – General
	442 Superpave Asphalt Concrete
	448 Asphalt Concrete



Section 400 – Pavement

◆ Key Changes:

- ◆ **Removal of 2002 CMSC Items 402, 404, and 416.**
- ◆ **Adjusting the quality control program as defined by ODOT to fit the City (Item 403)**
- ◆ **Item 407 – Tack Coat**
 - ◆ **Trackless Tack – must have written approval to use**
- ◆ **442 – Superpave Asphalt Concrete**
- ◆ **Residential and Non-Residential Pavement Policies – Being Updated**



Section 450



2002 City of Columbus CMS	2012 City of Columbus CMS
451 Reinforced Portland Cement Concrete Pavement	451 Reinforced Portland Cement Concrete Pavement
452 Plain Portland Cement Concrete Pavement	452 Non-Reinforced Portland Cement Concrete Pavement
454 Pavement Relief Joints	454 Pavement Relief Joints
499 Concrete – General	499 Concrete – General



Section 450/499

◆ **Key Changes:**

◆ **Section 499 – Concrete – General**

- ◆ **Class A concrete included**
- ◆ **Classes B, E and E modified eliminated**
- ◆ **Pavement policy and changes in other sections:**
 - ◆ **Item 306 – Class F (3000 psi) –instead of Class E modified**
 - ◆ **Item 305 – Class C (4000 psi) –instead of Class E**
- ◆ **Use of HP concrete**
- ◆ **Limited the use of Option 3**
- ◆ **Fly ash – limitations on the time of year**



Section 500



2002 City of Columbus CMS	2012 City of Columbus CMS
501 Structures-General	501 Structures-General
502 Temporary Structure	502 Structures for Maintaining Traffic
503 Excavation for Structures	503 Excavation for Structures
504 Sheet Piling Left in Place	504 Sheet Piling Left in Place
505 Pile Driving Equipment Mobilization	505 Pile Driving Equipment Mobilization
506 Static Load Test	506 Static Load Test
507 Bearing Piles	507 Bearing Piles
508 Falsework and Forms	508 Falsework and Forms
509 Reinforcing Steel	509 Reinforcing Steel
510 Dowel Holes	510 Dowel Holes
511 Concrete for Structures	511 Concrete for Structures
512 Waterproofing	512 Treating Concrete
513 Structural Steel Members	513 Structural Steel Members
514 Painting of Structural Steel	514 Painting of Structural Steel
515 Prestressed Concrete Bridge Members	515 Prestressed Concrete Bridge Members
516 Expansion and Contraction Joints, Joint Sealers and Bearing Devices	516 Expansion and Contraction Joints, Joint Sealers and Bearing Devices
517 Railings	517 Railings
518 Drainage of Structures	518 Drainage of Structures
519 Patching Concrete Structures	519 Patching Concrete Structures
520 Pneumatically Placed Mortar	520 Pneumatically Placed Mortar
521 Bridge Timbers	
522 Structural Plate Corrugated Metal Structures on Footings	522 Structural Plate Corrugated Metal Structures on Footings
523 Dynamic Load Test	523 Dynamic Load Test
	524 Drilled Shafts
526 Approach Slabs	526 Approach Slabs
564 Sealing of Concrete Surfaces	



Section 500

- ◆ **Key Changes:**
 - ◆ **Shop Drawing requirements**
 - ◆ **514 – Painting Specification**
 - ◆ **521 – Bridge Timbers *removed***



Section 600

2002 City of Columbus CMS	2012 City of Columbus CMS
601 Slope and Channel Protection	601 Slope and Channel Protection
602 Masonry	602 Masonry
603 Pipe Culverts and Driveway Pipes	603 Pipe Culverts, Sewers, and Drains
604 Manholes, Catch Basins, and Inlets	604 Manholes, Catch Basins, Inlets, Inspection Wells, Junction Chambers, Precast Reinforced Concrete Outlets, Or Monuments
605 Underdrains	605 Underdrains
606 Guardrail	606 Guardrail
607 Fence	607 Fence
608 Walks, Curb Ramps, and Steps	608 Walks, Curb Ramps, and Steps
609 Curbs	609 Curbing, Concrete Medians, and Traffic Islands
610 Cellular Retaining Walls	610 Cellular Retaining Walls
612 Concrete Median and Traffic Island	
613 Sign Lighting and Electrical Signs	613 Flowable Controlled Density Fill (FCDF)
614 Maintaining Traffic	614 Maintaining Traffic
615 Temporary Roads and Pavements	615 Roads and Pavements For Maintaining Traffic
616 Dust Control	616 Dust Control
617 Reconditioning Shoulders	617 Reconditioning Shoulders
618 Pipe Roof Drains	618 Rumble Strips on Shoulders
619 Field Office	619 Field Office
620 Delineators	620 Delineators
621 Raised Pavement Markers	621 Raised Pavement Markers (RPM)
622 Concrete Barrier	622 Concrete Barrier
623 Construction Layout Stakes	623 Construction Layout Stakes
624 Mobilization	624 Mobilization
625 Freeway Lighting	625 Highway Lighting
	626 Barrier Reflectors
	627 Reboundable Traffic Post
630 Traffic Signs and Sign Supports	630 Traffic Signs and Sign Supports
	631 Sign Lighting and Electrical Signs
632 Traffic Signal Equipment	632 Traffic Signal Equipment
633 Traffic Signal Controllers	633 Traffic Signal Controllers
634 Gabion Embankment Slope Protection	
635 Derrick Stone	
636 Flowable Controlled Density Fill (FCDF)	
637 Street Name Signs and Supports	



Section 600 - Incidentals

◆ **Key Changes:**

- ◆ **608 – Flatwork – Concrete requirements**
 - ◆ **Class C (without option 3 included within Item 499)**
 - ◆ **Finishing agents or water not allowed**
- ◆ **613 – Flowable Controlled Density Fill**
- ◆ **614 – Maintenance of Traffic**
- ◆ **625 – Highway Lighting v. Street Lighting**
- ◆ **Traffic signal design will follow City specifications**
 - ◆ **Traffic signal design manual**
 - ◆ **Supplemental Specification(s)**



Section 640



2002 City of Columbus CMS	2012 City of Columbus CMS
641 Pavement Marking – General	641 Pavement Marking – General
642 Traffic Paint	642 Traffic Paint
643 Polyester	643 Polyester Pavement Marking
644 Thermoplastic	644 Thermoplastic Pavement Marking
645 Preformed Marking Material	645 Preformed Pavement Marking
646 Heat Applied Preformed Marking Material	646 Epoxy Pavement Marking
647 Reboundable Traffic Post	647 Heat-Fused Preformed Thermoplastic Pavement Marking
	648 Spray Thermoplastic Pavement Marking



Section 650

2002 City of Columbus CMS	2012 City of Columbus CMS
	651 Topsoil Stockpiled
	652 Placing Stockpiled Topsoil
653 Topsoil Furnished and Placed	653 Topsoil Furnished and Placed
	654 Renovating Existing Soil
	657 Tree Protection
659 Seeding and Mulching	659 Seeding and Mulching
660 Sodding	660 Sodding
	661 Planting Trees, Shrubs and Vines
	662 Landscape Watering
	666 Pruning Existing Trees
667 Seeding and Jute Matting	
668 Seeding and Excelsior Matting	
670 Erosion Protection	670 Erosion Protection
	671 Erosion Control Mats



Section 650 - Roadside

- ◆ **Key Changes:**
 - ◆ **Added Topsoil Stockpiling**
 - ◆ **Added requirements and specifications for Trees, Shrubs, and Vines**
 - ◆ **Warranty/Establishment Period (Item 661)**
 - ◆ **Pruning, etc.**
 - ◆ **659 – Seeding and Mulching**
 - ◆ **652 – Landscape Watering**



Section 700

2002 City of Columbus CMS	2012 City of Columbus CMS
701 Cementitious Materials	701 Cementitious Materials
702 Asphalt Material	702 Asphalt Material
703 Aggregate	703 Aggregate
704 Masonry Units	704 Masonry Units
705 Concrete Pavement Incidentals	705 Concrete Incidentals
706 Concrete and Clay Pipe	706 Concrete and Clay Pipe
707 Steel and Aluminum	707 Steel and Aluminum
708 Paint	708 Paint
709 Reinforcing Steel	709 Reinforcing Steel
710 Fence and Guardrail	710 Fence and Guardrail
711 Structural Steel and Structure Incidentals	711 Structural Steel and Structure Incidentals
712 Miscellaneous	712 Miscellaneous
713 Freeway Lighting and Electrical Materials	
	719 Delineator Materials
720 Plastic Pipe	720 Plastic Pipe
721 Raised Pavement Markers	721 Raised Pavement Marker Materials
	725 Highway Lighting Materials
	726 Barrier Reflector Material
730 Traffic Sign and Support Material	730 Traffic Sign and Support Material
731 Sign Lighting Material	731 Sign Lighting and Electrical Signs Material
732 Traffic Signal Material	732 Traffic Signal Material
733 Traffic Signal Controller Material	733 Traffic Signal Controller Material
737 Street Name Sign and Support Material	
740 Pavement Marking Material	740 Pavement Marking Material
746 Reboundable Traffic Post Material	



Section 700- Material Details

- ◆ **Key Changes**
 - ◆ **Item 703 – Aggregates**
 - ◆ **Item 706 – Concrete and Clay Pipe**
 - ◆ **Item 707 – Steel and Aluminum Pipe**
 - ◆ **Item 720 – Plastic Pipe**
 - ◆ **Several New Items**



Section 800



2002 City of Columbus CMS	2012 City of Columbus CMS
801 Furnishing and Laying Pipe and Fittings	801 Furnishing and Laying Pipe and Fittings
802 Valves and Appurtenances	802 Valves and Appurtenances
803 Tapping Sleeves and Valves	803 Tapping Sleeves and Valves
804 Iron Castings	804 Iron Castings
805 Water Service Taps	805 Water Service Taps
806 Casing Pipe	806 Casing Pipe
807 Adjust Valve Boxes and Service Boxes to Grade	807 Adjust Valve Boxes and Service Boxes to Grade
808 Relocating, Cutting and Plugging (or Capping) Water Mains or Services 3 Inches and Larger	808 Relocating, Cutting and Plugging (or Capping) Water Mains or Services 3 Inches and Larger
809 Fire Hydrants	809 Fire Hydrants
810 Furnishing and Installing Hydrant Extensions, Complete	810 Furnishing and Installing Hydrant Extensions, Complete
811 Increase or Decrease in Excavation and Backfill	811 Increase or Decrease in Excavation and Backfill
812 Air Release Outlets	812 Air Release Outlets
813 Rock Excavation	
815 Crushed Stone or Gravel	815 Crushed Stone or Gravel
816 Water Lines and Water Service Taps Relocated or Abandoned – 2 Inch and Under	816 Water Lines and Water Service Taps Relocated or Abandoned – 2 Inch and Under



Section 800- Water Supply and Distribution

- ◆ **The DOPW(W) new specification.**
- ◆ **Key Changes**
 - ◆ **Allowance of steel pipe**
 - ◆ **Restrained joints**
 - ◆ **Corrosion protection**
 - ◆ **Modification of Standard Drawings**
 - ◆ **Requirement of Water Licenses**



Section 900

2002 City of Columbus CMS	2012 City of Columbus CMS
901 Pipe Sewers Complete in Place	901 Pipe Sewers Complete in Place
902 Increased or Decreased Earth Excavation	902 Increased or Decreased Earth Excavation
903 Rock Excavation	903 Rock Excavation
904 Miscellaneous Concrete Structures	904 Miscellaneous Concrete Structures
905 Concrete	905 Concrete
906 Stone Foundation	906 Stone Foundation
907 Sheet piling And Bracing Left In Place	907 Sheet piling And Bracing Left In Place
908 Tunnel	908 Tunnel
909 Tunnel - Jacked Liner	909 Tunnel - Jacked Liner
910 Concrete Encasement for Sewers	910 Concrete Encasement for Sewers
911 Compacted Backfill	911 Compacted Backfill
912 Compacted Granular Material	912 Compacted Granular Material
913 Channel	913 Channel
914 Six-Inch (152 Mm) Diameter Pipe Risers	914 Six-Inch (152 Mm) Diameter Pipe Risers
915 Wyes, Fittings and Clean-Outs	915 Wyes, Fittings and Clean-Outs
918 Sanitary House Connection Service	918 Sanitary House Connection Service
919 Watercourse Erosion Protection	919 Watercourse Erosion Protection
920 Tunnel Shaft/Jacking Pit	920 Tunnel Shaft/Jacking Pit



Section 900- Sewerage Work

◆ **Key Changes:**

- ◆ **No. 8's removed from allowable bedding; only 57's**
- ◆ **Concrete encasement when within influence of pavement loadings**
- ◆ **Dewatering**
- ◆ **Trenches paralleling pavement**



Section 1000 - Electrical

2002 City of Columbus CMS	2012 City of Columbus CMS
1000 Street Lighting	1001 Street Lighting
	1002 Highway Lighting
	1003 Highway Lighting Materials
	1004 Power Transmission and Distribution Standards



Section 1000- Electrical

- ◆ **Key Changes**
 - ◆ **Changed Title of the Section from Street Lighting to Electrical**
 - ◆ **Item 1001 - Street Lighting remains relatively the same**
 - ◆ **Item 1002 and 1003 – Added from ODOT CMS for specific lighting locations**
 - ◆ **Item 1004 - added for Transmission and Distribution for line relocations and new construction**



Final Comments and Questions?